

# Missouri Department of Natural Resources



## PUBLIC NOTICE

### DRAFT MISSOURI STATE OPERATING PERMIT

DATE: July 16, 2004

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, Professional Engineer. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by August 16, 2004 or received in our office by 5:00 p.m. on August 19, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.state.mo.us/wpscd/wpcp/homewpcp.htm>, or at the Department of Natural Resources, Water Protection Program, 205 Jefferson Street, P.O. Box 176, Jefferson City, Missouri 65102, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: July 16, 2004

Permit Number: MO-0103331

Northeast Regional Office

<b>FACILITY NAME AND ADDRESS</b>	<b>NAME AND ADDRESS OF OWNER</b>
Fulton WWTP 1025 Worsham Circle Fulton, MO 65251	City of Fulton P.O. Box 130 Fulton, MO 65251
<b>RECEIVING STREAM &amp; LEGAL DESCRIPTION</b>	<b>TYPE OF DISCHARGE</b>
Stinson Creek, Sec. 21, T47N, R9W, Callaway County	Domestic, reissuance

This is a re-notice of the May 9, 2003 Public Notice.

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0103331

Owner: City of Fulton  
Address: PO Box 130, Fulton, MO 65251

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Fulton WWTP  
Address: 1025 Worsham Circle, Fulton, MO 65251

Legal Description: SE ¼, NW ¼, NE ¼, Sec. 21, T47N, R9W, Callaway County  
Latitude/Longitude: +3859125/-9155528

Receiving Stream: (Stinson Creek) (C)  
First Classified Stream and ID: (Stinson Creek) (C)(00710)  
USGS Basin & Sub-watershed No.: (10300102-270002)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

See page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

\_\_\_\_\_  
Effective Date

\_\_\_\_\_  
Stephen M. Mahfood, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

\_\_\_\_\_  
Expiration Date  
MO 780-0041 (10-93)

\_\_\_\_\_  
Jim Hull, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfall #001 - POTW - SIC #4952

Oxidation ditch/sludge holding tanks/aerobic digesters/sludge is land applied

Design population equivalent is 47,500.

Design flow is 2.93 MGD.

Actual flow is 1.7 MGD.

Design sludge production is 975 dry tons/year.

Actual sludge production is 414 dry tons/year.

Outfall #002 - POTW - SIC #4952

Single cell lagoon/inflow - infiltration basin/sludge is retained in lagoon.

Design flow is 4.58 MGD.

Actual flow is dependent upon precipitation.

					PAGE NUMBER 3 of 9	
<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PERMIT NUMBER MO-0103331	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/day	24 hr. total
Biochemical Oxygen Demand <sub>5</sub> **	mg/L		45	30	once/week (Note 1)	24 hr. composite
Total Suspended Solids**	mg/L		45	30	once/week (Note 1)	24 hr. composite
Ammonia as N	mg/L	*		*	once/month	grab
Temperature	°C	*		*	once/month	grab
pH - Units	SU	***		***	once/day	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE _____.						
Cadmium, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Chromium, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Copper, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Lead, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Nickel, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Zinc, Total Recoverable	µg/L	*		*	once/quarter*****	grab
Hardness	mg/L	*		*	once/quarter*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____.						
Whole Effluent Toxicity (WET) Test	% Survival	Special Condition #8			once/year	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____.						
<u>Outfall #002</u>						
Flow	MGD	*		*	once/month	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub> ****	mg/L		45		once/month	grab
Total Suspended Solids****	mg/L		45		once/month	grab
pH - Units	SU	*****		*****	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

					PAGE NUMBER 4 of 9	
<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PERMIT NUMBER MO-0103331	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Instream Sampling</u> (Note 2)						
Ammonia as N	mg/L	*		*	once/month	grab
Temperature	°C	*		*	once/month	grab
pH - Units	SU	*		*	once/month	grab
Dissolved Oxygen	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* This facility is required to meet a removal efficiency of 85% or more.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- \*\*\*\* This facility is required to meet a removal efficiency of 65% or more.
- \*\*\*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.
- \*\*\*\*\* Sample once per quarter in the months of March, June, September, and December.

Note 1 - Composite sample shall, as a minimum, consist of at least four representative grab samples in a 24 hour period with at least 2 hours between each grab sample.

Note 2 - Instream samples shall be taken from Stinson Creek just above the confluence with Smith Branch.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

C. SPECIAL CONDITIONS (continued)

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 µg/L);
  - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.

C. SPECIAL CONDITIONS (continued)

(b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

8. Whole Effluent Toxicity (WET) tests will be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
#001	100%	Annually	24 hr. comp.	September

a. Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above.

If the test passes the effluent limit do not repeat test until the next test period. Submit results with the annual report.

If the test fails the effluent limit a multiple dilution test shall be performed within 30 days, and biweekly thereafter until one of the following conditions are met:

- (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
  - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (2) The permittee shall submit a summary of all test results for the test series to the Planning Section of the WPCP, DNR, Box 176, Jefferson City, MO within 14 days of the third failed test. DNR will contact the permittee with initial guidance on conducting a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE). The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPCP within 60 days of the date of DNR's letter. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

a. Test Schedule and Follow-Up Requirements (continued)

- (3) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
  - (4) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in part b.(1) will be required during this period.



C. SPECIAL CONDITIONS (continued)

8. Whole Effluent Toxicity (WET) (continued)

- (5) In addition to the WET test summary report required in part (2), all failing test results shall be reported to DNR within 14 days of the availability of results.
- (6) All WET test results for the reporting period shall be summarized and submitted to DNR by the end of the following October. When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

b. PASS/FAIL procedure and effluent limitations

- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level;  $p = 0.05$ ) than that observed in the upstream receiving-water control. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.
- (2) To pass a multiple-dilution test:
  - (a) the computed percent effluent at the edge of the zone of initial dilution (AEC) must be less than three-tenths (0.3) of the  $LC_{50}$  concentration for the most sensitive of the test organisms, or,
  - (b) all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is considered an effluent limit violation.

c. Test Conditions

- (1) Test species: Ceriodaphnia dubia and fathead minnows, Pimephales promelas. Organisms used in WET testing should come from cultures reared for the purpose of conducting toxicity tests and should be cultured in a manner consistent with the most current USEPA guidelines. All test animals should be cultured as described in EPA-600/4-90/027.
- (2) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (3) When dilutions are required, upstream receiving stream water will be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used. Procedures for generating reconstituted water will be supplied by the Department of Natural Resources (DNR).
- (4) Tests should be initiated immediately after the sample is collected, but tests must be initiated no later than 36 hours after collection.

c. Test Conditions (continued)

- (5) Single-dilution tests will be run with:
  - (a) Effluent at the AEC concentration;
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.
- (6) Multiple-dilution tests will be run with:

C. SPECIAL CONDITIONS (continued)

8. Whole Effluent Toxicity (WET) (continued)

- (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC,  $\frac{1}{2}$  AEC and  $\frac{1}{4}$  AEC.
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

DRAFT

**SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS**

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless otherwise specified by MDNR, procedures should be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA/600/4-90/027.

Test conditions for Ceriodaphnia dubia:

Test duration: 48 h  
Temperature:  $25 \pm 2^{\circ}\text{C}$   
Light Quality: Ambient laboratory illumination  
Photoperiod: 16 h light, 8 h dark  
Size of test vessel: 30 mL (minimum)  
Volume of test solution: 15 mL (minimum)  
Age of test organisms: <24 h old  
No. of animals/test vessel: 5  
No. of replicates/concentration: 4  
No. of organisms/concentration: 20 (minimum)  
Feeding regime: None (feed prior to test)  
Aeration: None  
Dilution water: Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.  
Endpoint: Mortality (Statistically significant difference from upstream receiving water control at  $p \leq 0.05$ )  
Test acceptability criterion: 90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration: 48 h  
Temperature:  $25 \pm 2^{\circ}\text{C}$   
Light Quality: Ambient laboratory illumination  
Photoperiod: 16 h light/ 8 h dark  
Size of test vessel: 250 mL (minimum)  
Volume of test solution: 200 mL (minimum)  
Age of test organisms: 1-14 days (all same age)  
No. of animals/test vessel: 10  
No. of replicates/concentration: 4 (minimum) single dilution method  
2 (minimum) multiple dilution method  
No. of organisms/concentration: 40 (minimum) single dilution method  
20 (minimum) multiple dilution method  
Feeding regime: None (feed prior to test)  
Aeration: None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.  
Dilution water: Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.  
Endpoint: Mortality (Statistically significant difference from upstream receiving water control at  $p \leq 0.05$ )  
Test Acceptability criterion: 90% or greater survival in controls

Date of Fact Sheet: July 9, 2004

Date of Public Notice: July 16, 2004

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT  
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0103331

FACILITY NAME: Fulton WWTP

OWNER NAME: City of Fulton

LOCATION: Sec. 21, T47N, R9W, Callaway County

RECEIVING STREAM: Stinson Creek

FACILITY CONTACT PERSON: Jim Ianke

TELEPHONE: (573) 642-8040

FACILITY DESCRIPTION AND RATIONALE

The City of Fulton has applied for reissuance of National Pollutant Discharge Elimination System (NPDES) permit number MO-0103331 for the wastewater treatment plant serving the City of Fulton.

The wastewater treatment plant is a publicly owned treatment works (POTW) with a design population equivalent of 47,500. Outfall #001 is the discharge point for the oxidation ditch and sludge holding tanks and has a design flow of 2.93 million gallons per day (MGD). Outfall #002 is the discharge point for a single cell lagoon that serves as an Inflow and Infiltration basin during rain events. Outfall #002 has a design flow of 4.58 MGD.

Missouri's Water Quality Standards, 10 CSR 20-7.031 defines the state's water quality objectives in terms of water uses to be maintained and criteria to protect those uses. Stinson Creek is classified for protection of livestock and wildlife watering, and aquatic life protection (limited warm-water fishery).

Effluent limitations are proposed according to the attached Water Quality Review Sheet with the exception of the metals. Data submitted by the permittee indicates Stinson Creek to be a "limited warm water fishery", therefore, we are proposing "monitoring only" for the metals.

The permit will be issued for a period of five years.

FACT SHEET  
Fulton WWTP  
MO-0103331

PUBLIC PARTICIPATION

Public comments on the proposed permit are being requested in accordance with Public Participation regulation under 10 CSR 20-6.020.

A copy of the public notice and this fact sheet are being forwarded to the applicant, the District Engineer of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Environmental Protection Agency and the Missouri Department of Conservation. Other interested individuals may obtain a copy on request by writing to the address listed below for comment letters.

Comments should be confined to the issues relating to the proposed action and permit and their effect on water quality. The Missouri Department of Natural Resources may not consider comments or objections to a permit based on questions of zoning, location, or other non-water quality issues. See, Curdt v. MO Clean Water Commission, 586 S.W. 2d 58 (Mo. App. 1979).

The proposed determinations of the draft permit are tentative pending the public notice process.

Persons wishing to comment upon or object to the proposed determinations are invited to submit them in writing to: Department of Natural Resources, Water Protection and Soil Conservation Division, (Missouri Clean Water Commission), P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, P.E., Chief, NPDES Permits and Engineering Section. Please include the permit number of the draft permit in all comment letters.

Within 30 days from the public notice date, as listed on page one, all water quality comments received will be considered in the formulation of all final determinations regarding this application. If response to the public notice indicates significant public interest, a public hearing may be held after due notice. Public hearing and/or issuance of the NPDES permit will be processed according to 10 CSR 20-6.020.

Copies of all draft permits, comments and other information are available for inspection and copying at the Department of Natural Resources, Water Protection and Soil Conservation Division, (Missouri Clean Water Commission) Water Protection Program, P.O. Box 176, 205 Jefferson Street, Jefferson City, Missouri 65102.

PERMIT REGULATIONS

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. NPDES permits in Missouri are issued by the Director of the Department of Natural Resources under an approved NPDES program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended).

WATER QUALITY STANDARDS

10 CSR 20-7.031 Missouri Water Quality Standards, Missouri Department of Natural Resources (the Department) "defines the Clean Water Commission's water quality objectives in terms of water uses to be maintained and the criteria to protect those uses".

July 9, 2004

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#### EFFLUENT LIMITATIONS

In order to protect these beneficial uses and the water quality of surface waters and groundwater, effluent limitations are being established under federal and state laws. The monitoring requirements for all parameters have been established by the Department in compliance with 10 CSR 20-7.015 Effluent Regulation.

The current Department effluent regulations 10 CSR 20-7.015 states that non-domestic waste discharges "shall meet the applicable control technology currently effective or that which will become effective during the life of the permit. Where this definition is not available or applicable the Department shall set specific parameter limitations using best engineering judgment as defined in 402(a)(1) of the Federal Clean Water Act".

#### STANDARD CONDITIONS

The standard conditions attached to the draft permit are applied to all NPDES permittees. They reflect requirements of federal (40 CFR 122) and state law (10 CSR 20-Chapter 6) with respect to NPDES permittee duties, responsibilities and liabilities.



Missouri Department of Natural Resource  
Water Protection Program  
NPDES Permits and Engineering Section

**Water Quality Review Sheet**  
**Determination of Effluent Limits**

**FACILITY INFORMATION**

FACILITY NAME: Fulton WWTP NPDES #: MO-0103331

FACILITY TYPE/DESCRIPTION: Oxidation ditch & settling basin

ECOREGION: Ozark Highlands 8- DIGIT HUC: 10300102 COUNTY: Callaway  
Central Irregular Plains Osage Plains  
Mississippi Alluvial Plains Ozark Highlands

LEGAL DESCRIPTION: SE ¼, NW ¼, NE ¼, Sec. 21, T47N, R9W LATITUDE/LONGITUDE: 38°50'12.5"/91°55'52.8"

WATER QUALITY HISTORY: Two effluent violations over last five years; BOD at outfall 001 in April 2002, TSS at outfall 002 in July 2000.

Facility has had I & I problems, which appear to be adequately addressed with settling basin.

Receiving stream is on 303d list for Biochemical Oxygen Demand and Volatile Suspended Solids because of this facility. It is a candidate for de-listing.

**OUTFALL CHARACTERISTICS**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING WATERBODY	OTHER
001	4.54	Oxidation ditch, aerobic digesters	Stinson Creek	
002	7.1	Single cell lagoon - infiltration basin	Stinson Creek	Located 2400 feet upstream from 001

**RECEIVING WATERBODY INFORMATION**

WATERBODY	CLASS	7Q10(CFS)	*DESIGNATED USES	OTHER CHARACTERISTICS
Stinson Creek	C	0.0	LWW, AQL	

\*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warmwater Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

COMMENTS: Monitoring data indicate that facility is not significantly depressing DO in Stinson Creek. Therefore regular limits for BOD will be applicable.

**MIXING CONSIDERATIONS**

**Mixing Zone.** Approximately 1000 feet from Outfall 001 to confluence with Smith Branch [10 CSR 20-7.031(4)(A)5B(I)(a)].

**Zone of Initial Dilution (Z.I.D.).** Not allowed [10 CSR 20-7.031(4)(A)5B(I)(b)].

**PERMIT LIMITS AND INFORMATION**

TMDL WATERSHED: ☒ Y W.L.A. STUDY CONDUCTED: ☒ Y DISINFECTION REQUIRED: ☒ N DISINFECTION WAIVER: ☐ NA  
(Y OR N) (Y OR N) (Y OR N) (Y, N, NA)

**OUTFALL 001**

WET TEST (Y OR N): ☐ Y FREQUENCY: Once/year A.E.C. 100% LIMIT: No significant mortality

PARAMETER	UNITS	MAXIMUM DAILY LIMIT	AVERAGE WEEKLY LIMIT	AVERAGE MONTHLY LIMIT	MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	Once/day	24 hr total
Biochemical Oxygen Demand	mg/l		45	30	Once/week	24 hr comp.
Total Suspended Solids	mg/l		45	30	Once/week	24 hr comp.
Ammonia Nitrogen April 1 - October 31	mg/l	1.6**		0.8**	Once/month	grab
Ammonia Nitrogen November 1 - March 31	mg/l	2.9**		1.4**	Once/month	grab
Temperature	°C	*		*	Once/month	grab
pH	units	(6-9)			Once/day	grab
Hardness	mg/l	*		*	Once/quarter	grab
Cadmium, Total Recoverable	µg/l	16		8	Once/quarter	grab
Chromium, Total Recoverable	µg/l	71		36	Once/quarter	grab
Copper, Total Recoverable	µg/l	48		24	Once/quarter	grab
Lead, Total Recoverable	µg/l	33		17	Once/quarter	grab
Nickel, Total Recoverable	µg/l	592		295	Once/quarter	grab
Zinc, Total Recoverable	µg/l	400		200	Once/quarter	grab

\*\* To be imposed at first upgrade or increase in capacity.

**OUTFALL 002**

WET TEST (Y OR N): ☐ N FREQUENCY: A.E.C. LIMIT:

PARAMETER	UNITS	MAXIMUM DAILY LIMIT	AVERAGE WEEKLY LIMIT	AVERAGE MONTHLY LIMIT	MONITORING FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	Once/month	24 hr estimate
Biochemical Oxygen Demand	mg/l		45		Once/month	grab
Total Suspended Solids	mg/l		45		Once/month	grab
pH	units	min 6			Once/month	grab

Please report the date, time, and location for each parameter sampled along with the average daily flow (actual flow measured or estimated, not design flow). All the parameters should be sampled on the same day and within no more than a 2-hour period. If dissolved oxygen (DO) is to be sampled, sampling should take place at dawn. If discharge is contingent to storm events, rainfall should be measured every time there is a discharge.

**RECEIVING WATER MONITORING REQUIREMENTS**

Site S1. Stinson Creek just above confluence with Smith Branch

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Ammonia Nitrogen	Once/month	grab	NE ¼, SE ¼, NE ¼, Sec. 21, T47N, R9W; 38°50'12.4"/91°55'42.1"
Temperature	Once/month	grab	
pH	Once/month	grab	
Dissolved Oxygen	Once/month	grab	

**DERIVATION AND DISCUSSION OF LIMITS****Outfall #001**

**BOD & NFR:** 10CSR20-7.015(8)(B)1

**pH:** 10CSR20-7.015(8)(B)2



**Ammonia as N:** Current Ammonia as Nitrogen limits from WLA used to determine long term average (LTA). Maximum Daily (MDL) and Average Monthly (AML) limits were calculated in accordance with methods outlined in EPA/505/2-90-001.

**Waste Load Allocation:**

Chronic Criteria Total Ammonia (26°C, pH = 7.8): 1.2 mg/l  
 Summer Ammonia as N Criteria:  $(1.2 \text{ mg/l})/1.2 = 1 \text{ mg/l}$

Chronic Criteria Total Ammonia (6°C, pH = 7.8): 2.1 mg/l  
 Winter Ammonia as N Criteria:  $(2.1 \text{ mg/l})/1.2 = 1.75 \text{ mg/l}$

Season	W.L.A	L.T.A	M.D.L.	A.M.L.
Summer (April 1 - October 31)	1	0.527	1.639	0.817
Winter (November 1 - March 31)	1.75	0.922	2.868	1.429

C.V. = 0.6, n = 4

**Metals:**

Conversions from limits for dissolved metals are in EPA 823-B-96-007. They are based on the assumption of a hardness of 100 mg/l. Currently there is no hardness data available for this facility.

Parameter	Chronic Criteria (Dissolved)	Chronic Total Recoverable Multiplier	Acute Criteria (Dissolved)	Acute Total Recoverable Multiplier
Cadmium (µg/l)	9.1	1.1001	31	1.059
Chromium (µg/l)	42	1.0395	62	1.018
Copper (µg/l)	28	1.0417	43	1.0417
Lead (µg/l)	16	1.264	104	1.264
Nickel (µg/l)	360	1.003	3200	1.002
Zinc (µg/l)	241	1.014	264	1.0225

Maximum Daily Limits (MDL) and Average Monthly Limits (AML) were calculated in accordance with methods outlined in EPA/505/2-90-001. Maximum daily and average monthly limits are for Total Recoverable Metals. Since 7Q10 for Stinson Creek is zero, Waste Load Allocations (WLA<sub>c</sub> and WLA<sub>a</sub>) are equivalent to water quality standards for chronic and acute toxicities for each substance. Since metals are conservative substances, WLA<sub>c</sub> is used for calculation.

Parameter	W.L.A. <sub>c</sub>	W.L.A. <sub>a</sub>	L.T.A.	M.D.L.	A.M.L.
Cadmium (µg/l)	10.01	32.83	5.28	16.4	8.18
Chromium (µg/l)	43.66	63.12	23.01	71.56	35.66
Copper (µg/l)	29.17	44.79	15.37	47.81	23.83
Lead (µg/l)	20.23	131.48	10.66	33.16	16.52
Nickel (µg/l)	361.08	3206.4	190.29	591.8	294.95
Zinc (µg/l)	244.37	269.94	128.78	400.52	199.61

C.V. = 0.6, n = 4

**Outfall #002**

**BOD, NFR, & pH:** 10CSR20-7.015(8)(B)3a

Reviewer: Mark W Osborn  
 Date: 2/6/03  
 Unit Chief: Mohsen Dkhili

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.